

U.S. Patent Application Serial No. 10/589,961
Response filed on January 13, 2010
Reply to OA dated August 13, 2009

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Currently Amended): A separator for a lead-acid battery comprising a porous membrane made ~~mainly~~ from a polyolefin resin, an inorganic powder and a mineral oil and containing a surface active agent ~~as an auxiliary material, characterized in that the amount of any~~ wherein the separator liberates or elutes 1.0 ml or less per 100 cm² of reducing substance, as calculated from a consumption of a 0.01 N potassium permanganate solution per 100 cm² of the porous membrane, when four test pieces of the separator each having a height of 10 cm and a width of 10 cm are subjected to ~~liberated or eluted after~~ 24 hours of electrolysis carried out at about 25°C with a direct current of 1.2 A by using an electrolytic cell composed of the porous membrane, a positive electrode, a negative electrode and diluted sulfuric acid ~~is 1.0 ml or less per 100 cm² when calculated from the consumption of a (1/100)N potassium permanganate solution per 100 cm² of the porous membrane.~~

Claim 2 (Canceled)

Claim 3 (New): A separator for a lead-acid battery according to claim 1, wherein the separator liberates or elutes 0.9 ml or less per 100 cm² of reducing substance, as calculated from the consumption of a 0.01 N potassium permanganate solution per 100 cm² of the porous membrane.

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Claim 4 (New): A separator for a lead-acid battery according to claim 1, wherein the separator liberates or elutes 0.7 ml or less per 100 cm² of reducing substance, as calculated from the consumption of a 0.01 N potassium permanganate solution per 100 cm² of the porous membrane.

Claim 5 (New): A separator for a lead-acid battery according to claim 1, wherein the polyolefin resin is a polyethylene resin.

Claim 6 (New): A separator for a lead-acid battery according to claim 1, wherein the surface active agent is an anionic surface active agent or a nonionic surface active agent.

Claim 7 (New): A separator for a lead-acid battery according to claim 1, wherein the surface active agent is a sodium dialkylsulfosuccinate.

Claim 8 (New): A separator for a lead-acid battery according to claim 1, composed of the porous membrane formed from an extruded sheet containing the mineral oil from which the mineral oil is removed so that a desired amount of the mineral oil remains after forming the extruded sheet which is melted and extruded from the mixture of a total of 100 parts of raw materials provided by mixing materials containing 0.5 part or less of the surface active agent which comprises a sodium dialkylsulfosuccinate and materials consisting of 9.5 to 30 parts of the polyolefin resin, 19.5 to 30 parts of the inorganic powder and 49.5 to 70 parts of the mineral oil.